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Modeling of the Relationship Between Pore Size Distribution and Thickness of Ceramic MF Membrane

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摘要 The pore size distribution (PSD) measured by the gas bubble point (GBP) method of ceramic microfiltration (MF) membranes prepared by suspension technique was found to be significantly influenced by the membrane thickness. A culm-like model for pore structure was introduced to characterize the membrane pores instead of the conventional model which does not reflect the radius variation along the pore passages and is unable to explain the thickness effect on the membrane PSD. A laminate structure, taking the culm-like model for pore structure into consideration, was hypothesized for ceramic MF membranes. A mathematical model was then established to quantitatively describe the relationship between the membrane number PSD and the membrane thickness. Good results were obtained for the correlation of mean pore size and simulation of the PSD for ceramic MF membranes.

关键词 [modeling](#) [pore structure](#) [pore size distribution](#) [thickness](#) [ceramic membrane](#)

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Key words [modeling](#); [pore structure](#); [pore size distribution](#); [thickness](#); [ceramic membrane](#)

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